

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE  
BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of:

BIRKNER et al.

Application No.: 09/696,465

Filed: 10/25/2000

For: Integrated Construction Project  
Management System with Handheld  
Computer

Examiner: Beth Van Doren.

Art Unit: 2671

APPELLANT'S BRIEF

UNDER 37 C.F.R. § 1.192

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Sir:

Appellant offers this Appeal Brief in furtherance of the Notice of Appeal filed herewith in the above-referenced patent application. This Appeal Brief is submitted in triplicate as required by 37 C.F.R. § 1.192(a). A check is enclosed. Please deduct any required small entity fee, pursuant to 37 C.F.R. § 1.17(c) from deposit account 50-1861 or credit any excess fees associated with the Appeal Brief to such deposit account. Appendix A, attached hereto, contains a copy of all claims pending in this case.

REAL PARTY IN INTEREST:

All right, title, and interest in the subject invention and application are assigned to Atser, having offices at 1150 Richcrest Drive, Houston, TX 77060. Therefore, Atser is the real party interest.

RELATED APPEALS AND INTERFERENCES

No other appeals or interferences are known which will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

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### STATUS OF THE CLAIMS

Claims 1-20 were originally presented in the application. Claims 1-20 are the subject of this appeal. No other claims are pending.

### STATUS OF AMENDMENTS

A Final Office Action was mailed on March 3, 2004. A copy of all the pending claims is provided in Appendix A, attached hereto.

### SUMMARY OF THE INVENTION

The present invention is related generally to a construction management system includes a handheld computer adapted to collect construction data from the field; a planning system to track budgetary information; a design system to perform site engineering assessment; and a construction system to track material consumption and progress for each project, the construction system adapted to receive data collected from the handheld computer.

Implementations of the system may include one or more of the following. The handheld computer collects work in progress data such as project and contract identification, inspector identification, item number, location, and one or more description of activities. The handheld computer collects labor related information such as labor type, quantity and hours. The handheld computer also collects equipment information such as equipment type, quantity, hours in use and stand-by hours. The handheld computer can also collect submittal information such as weather condition, comments, and an inspector name. The handheld computer sends collected information to a server. The collected information may be sent wirelessly using a wireless handheld unit. Alternatively, a modem coupled to the handheld computer can be used to transmit

the information. Also, a hot-sync cradle coupleable to the handheld computer can be used for hot-syncing the collected information for transmission to a server.

Advantages of the system may include one or more of the following. The system manages the construction of multiple projects using inexpensive handheld computers communicating with a server. The handheld computer stores daily field journals such as work progress of unit bid items and contract deliverables, manpower utilization, equipment utilization, and general information including weather, temperature, remarks, and the inspector's name. The handheld computer also captures an inspection checklist and generates Punch list items, tracks Punch list items, takes facility inventory, and tracks facility repairs and cost estimates. The handheld also handles project documentation, such as project specifications, industry specifications, and drawing logs, among others.

The system is an integrated program management system where the processes for planning process, designing and constructing operations share the same information. The system can also perform program management where a large construction program can have a plurality of projects within that program. The system can manage the process of planning long range budget plans and after the plans have been approved, the system can specify for a particular year the projects that are in a design phase where an architect or engineering firm performs initial site feasibility studies, performs the design work so that the project can receive bids from construction companies. The system can also provide project tracking on a day to day basis. The tracking can be done using an inspection system field notebook system that tracks the progress of the project on a day to day basis

as well as values that are paid to the contractor so that correct intermediate progress payments can be made for a particular project.

The system is as easy to use as the pen and paper approach and provides information integration advantages, including the ability to capture data from scanners, barcode readers, or the Internet. Furthermore, as portable computers are typically deployed in field applications by service providers where employees are scattered over a wide geographic area, the information advantages arising from integrating data collected from handheld computers include an ability to link information generated at the client's site with follow-up discussions and letters necessary to close the transaction enhances the efficiency of field personnel. The handheld computer is small and inexpensive. Thus, field personnel can perform data collection without carrying a relatively bulky laptop or notebook computer.

Other advantages of the invention may include one or more of the following. The system provides an efficient, integrated system for keeping track of job details that are constantly changing. The management of proposal submittals becomes convenient. Further, the tracking submittal responses or approvals is streamlined. The submittals, transmittals, change orders, request for information, meeting minutes, daily reports, activity logs, and other job related documents are organized and instantly searchable. The system enables information related to a building production to be managed unitarily by making use of a computer and to properly transmit production information generated at each stage of the production to the next process. The field-based project managers can be constantly in touch with the main office via phone, fax, or courier to ensure that their job information is accurate and up-to-date. Production and cost information from the

system can be sent directly to the accounting staff for entry into the job costing and accounting software. Further, the system avoids requiring duplicate entries to be made.

### ISSUES

- I. Whether claims 1-6, 8-12 and 14-20 are anticipated under 35 U.S.C. § 102(e) by Meridian Project Systems, Inc. (Meridian).
- II. Whether claims 7 and 13 are unpatentable under 35 U.S.C. § 103(a) over Meridian.

### GROUPING OF THE CLAIMS

For each ground of rejection that appellant contest herein, which applies to more than one claim, such additional claims, to the extent separately identified and argued below, do not stand or fall together.

### ARGUMENT

- I. CLAIMS 1-6, 8-12 AND 14-20 UNDER 35 U.S.C. § 102(E) ARE NOT ANTICIPATED BY MERIDIAN PROJECT SYSTEMS, INC. (MERIDIAN).

Claims 1-6, 8-12 and 14-20 were rejected under Section 102e as anticipated by Meridian. Applicants respectfully traverse the comparison of Meridian to the claims. Meridian's suite of products includes Prolog Pocket which "allows users to collect data such as inspections and tests, material deliveries, safety notices, punch lists, notices to comply and events. Once the data is entered into Prolog Pocket, it can be uploaded to Prolog Manager 5 for additional reporting capabilities. Data can also be downloaded from the latest Prolog Manager database to Prolog Pocket for quick, accurate, and up-to-date information for mobile users." Prolog Manager 5 in turn provides "Purchasing, Cost Control, Engineering and Superintending features. The brand new Purchasing Module

manages the entire procurement process. You can track Buyout Items, Bid Packages, Bid Analysis, Contract Attachments, and a master Vendor database.”

Turning to the claims in the instant case, the independent claims recite a handheld computer adapted to collect construction data from the field; a planning system to track budgetary information; a design system to perform site engineering assessment; and a construction system to track material consumption and progress for each project, the construction system adapted to receive data collected from the handheld computer.

The Office Action asserted that Meridian shows a “planning system to track budgetary information (See at least page 1, sections 1-2, page 2, section 1, page 3, section 3, page 13, sections 1-3, pages 14-16, page 17, sections 1-3, page 19, and page 28, sections 1-3, wherein planning system features are disclosed that track the budget information).” However, this part of Meridian is essentially an accounting system and not a planning system. For example, the Meridian accounting system cannot track funding sources, the allocation of the funding sources, and scheduling information. Meridian also cannot maintain data relating to preliminary site feasibility studies such as estimates of the cost of the project. Further, it cannot handle multi-year projects. Hence, at least the planning system is missing in Meridian and this is one basis to traverse the rejection.

In the instant invention, the specification discloses an embodiment of the planning system as a budgetary system that tracks funding sources, the allocation of the funding sources, and scheduling information. As noted on pages 16-17 of the application, in one embodiment, “the planning system 102 includes a Fund/Source Module that maintains multi-year budget plans for the overall CIP process. This allows program managers to

create a multi-year Capital Improvement Plans and track the funding sources by program, fund, and by source. Each CIP plan is controlled separately to maintain a historical record of the previous year's CIP plan. This Planning System controls and manages the data associated with this process." Meridian does not manage the multi-year capital improvement budget process for program management that requires a system to adjust projects based on priorities, condition assessments, and maintenance considerations. Since the planning system is not taught by Meridian, this is one basis for traversing the Section 102 rejection.

The claims also recite a design system. As disclosed in the specification, in one embodiment, the design system 104 allows the user to perform detailed site assessments. The user can check for a variety of concerns, for example environmental concerns. The design system 104 also allows the user to start a preliminary design that meets predefined requirements on a particular project. The design system 104 also performs contract management aspects of the design contract, including tracking whether a design engineering company or an architectural firm has delivered certain items. The design system 104 also performs contract management and archives any court document control such as correspondence between an owner and a design firm.

The Office Action asserted that Meridian shows a "design system to perform site engineering assessment (See at least page 1, sections 1-4, page 2, section 1, page 3, sections 1-5, page 13, sections 1 and 3, page 15, and page 28, sections 1-3, which includes a system for engineers and engineering site analysis)." Applicants have carefully reviewed the pages, and failed to find the design system. Although page 15 of Meridian mentions the word "Engineering", but the Meridian Engineering functionality is

limited to document management for engineering diagrams and not a design system to perform site engineering assessment. To illustrate, page 15 is replete with logs, records of conversations, drawing history/list/packages, and submittal packages and transmittal cover sheet. However, there is no design functionality in Meridian.

In the instant application, one embodiment of the design functionality is described as follows: "The design system 104 allows the user to perform detailed site assessments. The user can check for a variety of concerns, for example environmental concerns." Meridian is completely silent on the design system that can address environmental concerns in the claimed design system. Hence, at least the design system element is missing from Meridian. This is another independent basis for traversing the rejection.

The Office Action also asserted that Meridian shows a "construction system to track material consumption and progress for each project, the construction system adapted to receive data collected from the handheld computer (See at least page 1, sections 1-2, page 2, section 1, page 3, sections 1-5, page 4, page 13, sections 1-3, pages 14-16, page 17, sections 1-3, page 19, and page 28, sections 1-3, which discloses a construction system to track progress and material consumption to generate reports using information from the handheld computer)."

As disclosed in the specification, one embodiment of the construction system 106 tracks the actual materials consumed and the progress of the project. For example, data relating to construction items previously bid upon can be reviewed in determining the quantity of material delivered and the payment to a particular contractor for its construction items. The system 106 can track on a daily basis the quantities of the materials being delivered to the job site, the progress of the work and the resulting pay



estimate sheets. The construction system 106 also performs various contract management functions, including archiving all contract documents and correspondence associated with a particular construction management construction firm.

MPEP § 2131 provides:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim.

Here, since the prior art reference relied upon by the examiner in a § 102 rejection does not contain every element recited in the claim in as complete detail as is contained in the claim and arranged as recited in the claim, Applicants respectfully traverse the rejection as being improper.

Moreover, since Meridian cannot anticipate claims 1 and 14, Meridian cannot anticipate the claims that depend therefrom. Thus, Meridian cannot anticipate claims 2-6, 8-12 and 15-20. Withdrawal of the Section 102 rejection is requested.

II. CLAIMS 7 AND 13 ARE PATENTABLE UNDER 35 U.S.C. § 103(A) OVER MERIDIAN.

Claims 7 and 13 were rejected under Section 103a as unpatentable over Meridian. Applicants respectfully traverse the rejection since claims 7 and 13 depend from allowable claim 1. Moreover, since Meridian fails to show each of the recited planning, design and construction system with a handheld computer, Meridian cannot render claims 7 and 13 obvious. Withdrawal of the §103 rejection is respectfully requested.

Before Applicants respond, a review of the requirement for a *prima facie* case of obviousness is helpful. Per MPEP 706.02(j): Contents of a 35 U.S.C. 103 Rejection

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP Section 2143 - Section 2143.03 for decisions pertinent to each of these criteria.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). See MPEP Section 2144 - Section 2144.09 for examples of reasoning

supporting obviousness rejections.

Here, the dependent claims are allowable because they recite features not shown in the references. Here, since Meridian fails to show each of the recited planning, design and construction system with a handheld computer, Meridian cannot render claims 7 and 13 obvious. Further, the claims are allowable since they include a number of elements that are completely missing from the cited reference.

Appellant points out that the Examiner bears the initial burden of factually establishing and supporting any *prima facie* conclusion of obviousness. *In re Rinehart*, 189 U.S.P.Q. 143 (CCPA 1976); M.P.E.P. § 2142. If the Examiner does not produce a *prima facie* case, the Applicant is under no obligation to submit evidence of nonobviousness. *Id.* In the instant case, the Examiner has not pointed to any evidence in Meridian, or how knowledge of those skilled in the art, provide a suggestion or motivation to modify the reference teaching so as to produce the claimed invention of claims 7 and 13. See *In re Zurko*, 59 U.S.P.Q.2d 1693 (Fed. Cir. 2001) ([I]n a determination of patentability .... the Board cannot simply reach conclusions based on its understanding or experience - or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings).

Under *Vaeck*, absent any evidence of a cited suggestion or reasonable motivation in the Meridian reference, or knowledge of those skilled in the art, for arriving at a construction management system with a handheld computer adapted to collect construction data from the field; a planning system to track budgetary information that manages multi-year budgets; a design system to perform site engineering assessment; and

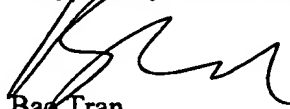
a construction system to track material consumption and progress for each project, the construction system adapted to receive data collected from the handheld computer, wherein the handheld computer collects equipment type, quantity, hours in use and stand-by hours or a hot-sync cradle coupleable to the handheld computer, the cradle hot-syncing the collected information for transmission to a server. Hence, *prima facie* obviousness of claims 7 and 13 has not been established. As such, it is respectfully requested that the § 103(a) rejection of independent claims 7 and 13 be withdrawn and the claims be allowed.

### CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 408-528-7490.

Respectfully submitted,



Bao Tran  
Reg. No. 37,955

TRAN & ASSOCIATES  
6768 Meadow Vista Court  
San Jose, California 95135  
Tel: 408-528-7490  
Fax: 408-528-1490

## APPENDIX A

1. (Previously Amended) A construction management system, comprising:
  - a handheld computer adapted to collect construction data from the field;
  - a planning system to track budgetary information that manages multi-year budgets;
  - a design system to perform site engineering assessment; and
  - a construction system to track material consumption and progress for each project,the construction system adapted to receive data collected from the handheld computer.
2. (Original) The system of claim 1, wherein the handheld computer collects work in progress data.
3. (Original) The system of claim 1, wherein the handheld computer collects project and contract identification, inspector identification, item number, location, and one or more description of activities.
4. (Original) The system of claim 1, wherein the handheld computer collects labor related information.
5. (Original) The system of claim 1, wherein the handheld computer collects labor type, quantity and hours.
6. (Original) The system of claim 1, wherein the handheld computer collects equipment information.
7. (Original) The system of claim 1, wherein the handheld computer collects equipment type, quantity, hours in use and stand-by hours.

8. (Original) The system of claim 1, wherein the handheld computer collects submittal information.
9. (Original) The system of claim 1, wherein the handheld computer collects weather condition, comments, and an inspector name.
10. (Original) The system of claim 1, wherein the handheld computer sends collected information to a server.
11. (Previously Amended) The system of claim 10, wherein the collected information is sent wirelessly using a wireless handheld unit.
12. (Previously Amended) The system of claim 10, further comprising a modem coupled to the handheld computer, wherein the information ~~can be~~ is transmitted using a modem.
13. (Original) The system of claim 10, further comprising a hot-sync cradle coupleable to the handheld computer, the cradle hot-syncing the collected information for transmission to a server.
14. (Original) A method for managing a construction project, comprising:
  - collecting construction data from the field with a handheld computer;
  - tracking budgetary information using a planning system;
  - performing site engineering assessment using a design system; and
  - tracking material consumption and progress for each project using a construction system, the construction system adapted to receive data collected from the handheld computer.

15. (Original) The method of claim 14, further comprising collecting work in progress data using the handheld computer.
16. (Original) The method of claim 14, further comprising collecting labor related information using the handheld computer.
17. (Original) The method of claim 14, further comprising collecting equipment information using the handheld computer.
18. (Original) The method of claim 14, further comprising collecting submittal information using the handheld computer.
19. (Original) The method of claim 14, wherein the handheld computer collects project and contract identification, inspector identification, item number, location, one or more description of activities, labor type, quantity, hours, weather condition, comments, and an inspector name.
20. (Original) The method of claim 14, further comprising sending collected information to a server over land-line or wireless medium.